

WHAT IS CLAIMED IS:

1. A system for controlling a drying cycle in a drying apparatus comprising a lipophilic fluid vapor, and a gas sensor capable of sensing the concentration of lipophilic fluid vapor present in said drying apparatus and transmitting a signal representative of the lipophilic fluid vapor concentration such that the drying cycle is controlled.
2. A system according to Claim 1 wherein said gas sensor causes said drying cycle to end.
3. A system according to Claim 1 wherein said gas sensor causes said drying cycle to end at a lipophilic fluid vapor concentration that is safe for human exposure.
4. A system according to Claim 1 wherein said gas sensor causes said drying cycle to end at a lipophilic fluid vapor concentration of less than about 40 ppm.
5. A system according to Claim 1 wherein said gas sensor causes said drying cycle to end at a lipophilic fluid vapor concentration of less than about 20 ppm.
6. A system according to Claim 1 wherein said gas sensor causes said drying cycle to end at a lipophilic fluid vapor concentration of less than about 15 ppm.
7. A system according to Claim 1 wherein said gas sensor causes said drying cycle to end at a lipophilic fluid vapor concentration of less than about 10 ppm.
8. A system according to Claim 1 wherein said gas sensor is of the type selected from the group consisting essentially of reactive sensors, physical property sensors, sorption sensors, and combinations thereof.

9. A system according to Claim 1 wherein said gas sensor is of the type selected from the group consisting essentially of electrochemical sensors, solid state semiconductor sensors, combustible gas sensors, flame ionization detectors, chemiluminescence sensors, nondispersive infrared sensors, spectroscopic sensors, photoacoustic sensors, fiber-optic sensors, microbalance sensors, conductive polymer sensors, elastomer chemiresistor sensors, reactive-gate semiconductor sensors, and combinations thereof.
10. A system according to Claim 1 wherein said lipophilic fluid vapor comprises a linear siloxane, a cyclic siloxane, or mixtures thereof.
11. A system according to Claim 1 wherein said lipophilic fluid vapor comprises a lipophilic fluid selected from the group consisting of octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane, dodecamethylcyclohexasiloxane, and mixtures thereof.
12. A system according to Claim 1 wherein said lipophilic fluid vapor comprises decamethylcyclopentasiloxane.
13. A system according to Claim 1 wherein said lipophilic fluid vapor comprises decamethylcyclopentasiloxane vapor and is substantially free of octamethylcyclotetrasiloxane.
14. A system according to Claim 1 wherein said drying apparatus is a dual mode apparatus capable of washing and drying fabrics within the same drum.
15. A system for controlling a drying cycle in a drying apparatus comprising a lipophilic fluid vapor, a condition detector, and a gas sensor wherein said condition detector is capable of activating said gas sensor and said gas sensor is capable of generating a signal representative of the lipophilic fluid vapor concentration in the dryer such that the drying cycle is controlled.

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16. A system according to Claim 15 wherein said gas sensor causes said drying cycle to end.

17. A system according to Claim 15 wherein said gas sensor causes said drying cycle to end at a lipophilic fluid vapor concentration that is safe for human exposure.

18. A system according to Claim 15 wherein said gas sensor causes said drying cycle to end at a lipophilic fluid vapor concentration that is safe for human exposure.

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19. A system according to Claim 15 wherein said gas sensor causes said drying cycle to end at a lipophilic fluid vapor concentration of less than about 40 ppm.

20. A system according to Claim 15 wherein said gas sensor causes said drying cycle to end at a lipophilic fluid vapor concentration of less than about 20 ppm.

21. A system according to Claim 15 wherein said gas sensor causes said drying cycle to end at a lipophilic fluid vapor concentration of less than about 15 ppm.

22. A system according to Claim 15 wherein said gas sensor causes said drying cycle to end at a lipophilic fluid vapor concentration of less than about 10 ppm.

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23. A system according to Claim 15 wherein said condition detector measures a condition selected from the group consisting essentially of time, fabric load mass, temperature, lipophilic fluid flow from said drying apparatus, drying apparatus drum torque, inlet drying air temperature, outlet drying air temperature, and combinations thereof.

24. A system according to Claim 15 wherein said gas sensor is of the type selected from the group consisting essentially of reactive sensors, physical property sensors, sorption sensors, and combinations thereof.

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25. A system according to Claim 15 wherein said gas sensor is of the type selected from the group consisting essentially of electrochemical sensors, solid state semiconductor sensors, combustible gas sensors, flame ionization detectors, chemiluminescence sensors, nondispersive infrared sensors, spectroscopic sensors, photoacoustic sensors, fiber-optic sensors, microbalance sensors, conductive polymer sensors, elastomer chemiresistor sensors, reactive-gate semiconductor sensors, and combinations thereof.
26. A system according to Claim 15 wherein said lipophilic fluid vapor comprises a linear siloxane, a cyclic siloxane, or mixtures thereof.
27. A system according to Claim 15 wherein said lipophilic fluid vapor comprises a lipophilic fluid selected from the group consisting of octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane, dodecamethylcyclohexasiloxane, and mixtures thereof.
28. A system according to Claim 15 wherein said lipophilic fluid vapor comprises decamethylcyclopentasiloxane.
29. A system according to Claim 15 wherein said lipophilic fluid vapor comprises decamethylcyclopentasiloxane vapor and is substantially free of octamethylcyclotetrasiloxane.
30. A system according to Claim 15 wherein said drying apparatus is a dual mode apparatus capable of washing and drying fabrics within the same drum.
31. A method for treating fabrics in need of treatment comprising:
- placing said fabrics in a drying apparatus comprising a gas sensor capable of sensing lipophilic fluid vapor concentration within said drying apparatus and

transmitting a signal representative of said lipophilic fluid vapor concentration;

- b. contacting said fabrics with a lipophilic fluid;
- c. operating said drying apparatus such that the drying cycle is controlled by said gas sensor.

32. A fabric treated by the method of Claim 30.

add gas